

## Claims

1. A method for covalently immobilizing probe-biomolecules on organic surfaces, wherein
  - (a) at least one probe-biomolecule with at least one polymer and/or copolymer, which has at least two photoreactive groups per molecule, is dissolved and
  - (b) the mixture from (a) is applied to a surface and covalently immobilized thereon by irradiation with light of a suitable wavelength.
2. A method as in claim 1, wherein the polymer is a swellable polymer, in which there are at least two identical or different photocross-linkable groups per polymer chain and/or the copolymer is a swellable copolymer, in which there are at least two identical or different photocross-linkable groups per copolymer chain.
3. A method as in claims 1 or 2, wherein the polymer and/or copolymer is/are applied to the surface by printing and then cross-linked afterwards.
4. A method as in any one of claims 1 through 3, wherein benzophenone or its derivatives, anthraquinone or its derivatives, nitrophenylazide and thymidine or their derivatives is/are used as (a) photoreactive group(s).
5. A method as in any one of claims 1 through 4, wherein the photoreactive group(s) is/are ultraviolet-reactive.
6. A method as in any one of claims 1 through 5, wherein the application in step (b) defined in claim 1 results in the formation of a pattern through printing.
7. A method as in any one of claims 1 through 6, wherein the polymer surface consists of cycloolefin copolymers, polystyrene, polyethylene, polypropylene, or polymethylmethacrylate.
8. A method as in any one of claims 1 through 7, wherein a partner of a specifically interacting system of complementary bonding partners (receptor/ligand) is used as a probe-biomolecule.
9. A method as in claim 8, wherein the specifically interacting system of complementary bonding partners is based on the interaction of a nucleic acid with a complementary nucleic

acid, the interaction of a peptide nucleic acid (PNA) with a nucleic acid, or the enzyme/substrate, receptor/ligand, lectin/sugar, antibody/antigen, avidin/biotin or streptavidin/biotin interaction.

10. A method as in claim 9, wherein the nucleic acid is a DNA or an RNA or an analog thereof.
11. A method as in claim 10, wherein the DNA or RNA is an oligonucleotide.
12. A method as in claim 11, wherein the antibody is a polyclonal, monoclonal, chimeric, or "single chain" antibody or a functional fragment or a derivative of such an antibody.
13. An organic surface with probe-biomolecules covalently immobilized thereon, attainable by a method as in any one of claims 1 through 12.
14. An organic surface with probe-biomolecules covalently immobilized thereon, wherein a pattern is formed, attainable by a method as in any one of claims 1 through 12.
15. The use of an organic surface as in claim 13 or 14 as a sensor chip.
16. A medical or diagnostic instrument that has an organic surface as in claim 13 or 14.